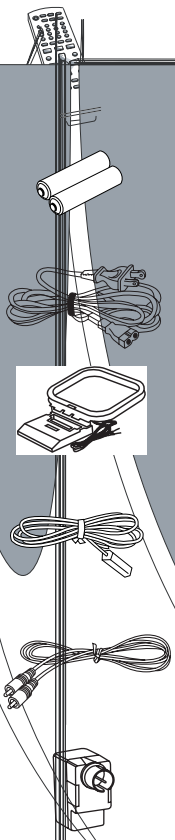
Before connecting, operating or adjusting this product, please read these instructions completely.

Accessories

Please check and identify the supplied accessories.
Use numbers indicated in parentheses when asking for replacement parts.

In U.S.A. to order accessories, refer to "Accessory Purchases" on page 39.

- ☐ **1 Remote control**
  (N2QAJB000098)
- ☐ **2 Batteries**
  for remote control
- ☐ **1 AC power supply cord**
  (K2CB2CB00006)
- ☐ **1 AM loop antenna**
  (N1DAAAA00001)
- ☐ **1 FM indoor antenna**
  (RSA0007-L)
- ☐ **1 Video cable**
  (RJL1P016B15A)
- ☐ **1 Antenna plug**
  For U.S.A. and Canada only
  (K2RC021B0001)



Note

The included AC power supply cord is for use with this unit only. Do not use it with other equipment.

User memo:

DATE OF PURCHASE _____

DEALER NAME _____

DEALER ADDRESS _____

_____

TELEPHONE NUMBER _____

The model number and serial number of this product can be found on either the back or the bottom of the unit. Please note them in the space provided below and keep for future reference.

MODEL NUMBER SC-PM39D

SERIAL NUMBER _____

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IMPORTANT SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the unit. Follow the safety instructions on the unit and the applicable safety instructions listed below. Keep these operating instructions handy for future reference.

1) Read these instructions.
2) Keep these instructions.
3) Heed all warnings.
4) Follow all instructions.
5) Do not use this apparatus near water.
6) Clean only with dry cloth.
7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11) Only use attachments/accessories specified by the manufacturer.
12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.
14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Product Service

1. Damage requiring service—The unit should be serviced by qualified service personnel if:
(a) The AC power supply cord or AC adaptor has been damaged; or
(b) Objects or liquids have gotten into the unit; or
(c) The unit has been exposed to rain; or
(d) The unit does not operate normally or exhibits a marked change in performance; or
(e) The unit has been dropped or the cabinet damaged.

2. Servicing—Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.

3. Replacement parts—When parts need replacing ensure the servicer uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other hazards.

4. Safety check—After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

Product information

For product information or assistance with product operation:

In the U.S.A., refer to "Customer Services Directory" on page 39.
In Canada, contact the Panasonic Canada Inc. Customer Care Centre at 1-800-561-5505, or visit the website (www.panasonic.ca), or an authorized Servicentre closest to you.

Disc information

e played

	Logo	Indication in these operating instructions	Remarks	
DVD-RAM		RAM	Recorded using Version 1.1 of the Video Recording Format (a unified video recording standard).	• Recorded with DVD-Video recorders, DVD-Video cameras, personal computers, etc. • Remove discs from their cartridges before use.
		JPEG	Recorded using the DCF (Design rule for Camera File system) standard.	• Recorded with Panasonic DVD-Video recorders. • To play JPEG files, select "Play as Data Disc" in Other Menu (➡ page 21).
DVD-Audio		DVD-A	—	
		DVD-V	Some DVD-Audio discs contain DVD-Video content. To play DVD-Video content, select "Play as DVD-Video" in Other Menu (➡ page 21).	
DVD-Video		DVD-V	—	
DVD-R			Panasonic DVD-R recorded and finalized※ on a Panasonic DVD-Video recorder or DVD-Video camera are played as DVD-Video on this unit.	
Video CD		VCD	—	
SVCD				
CD		CD	…th HDCD, but does not support Peak Extend function …ignals). …ded with 20 bits,	
CD-R CD-RW		WMA MP3 JPEG CD VCD	…d with the formats …ording. …s Data Disc" in Other	

※ A process that allo…
• It may not be possi… …s in all ca…

…s (This may cause disc

…ball-point pen or other hard

…enzine, thinner, static electricity …vent.

• Do … …ors or covers.
• Do n…
– Discs … …from removed stickers or labels (rente…
– Discs … …acked.
– Ir… …heart shapes.

Playi…

■

This Unit… The picture is compressed to show it… …it to be stretched vertically.

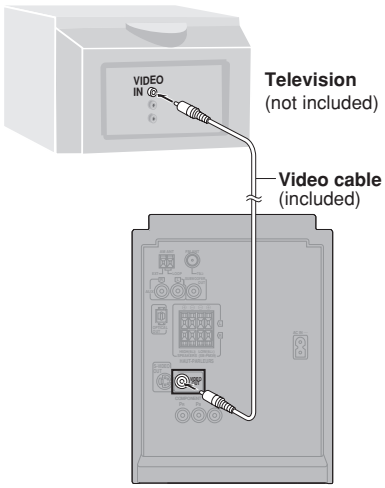
…AM/PD disc cleaner (LF-K200DCA1,

…or CDs, etc.

STEP 3 Television

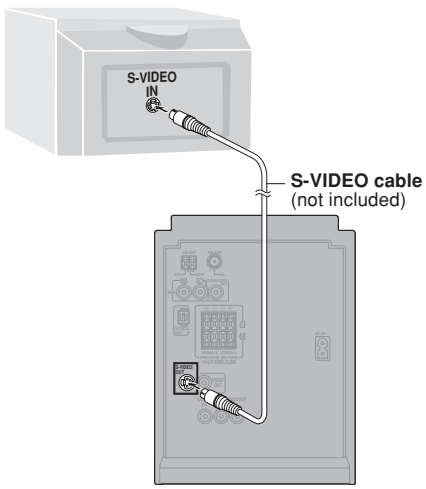
Video cable

■ Connecting a television with a VIDEO IN terminal



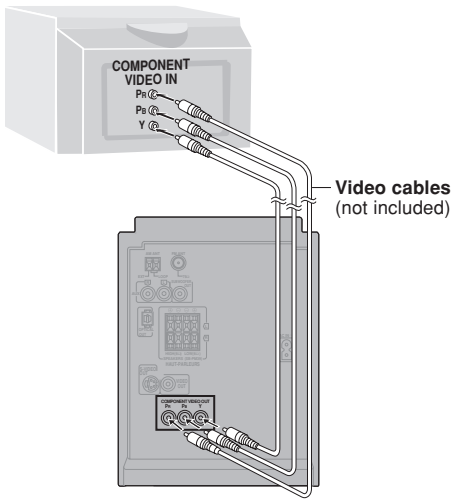
VIDEO OUT terminal
Do not connect the unit through a video cassette recorder, because the picture may not be played correctly due to the copy guard.

■ Connecting a television with an S-VIDEO IN terminal



S-VIDEO OUT terminal
The S-VIDEO terminal achieves a more vivid picture than the VIDEO OUT terminal by separating the chrominance (C) and luminance (Y) signals. (Actual results depend on the television.)

■ Connecting a television with COMPONENT VIDEO IN terminals



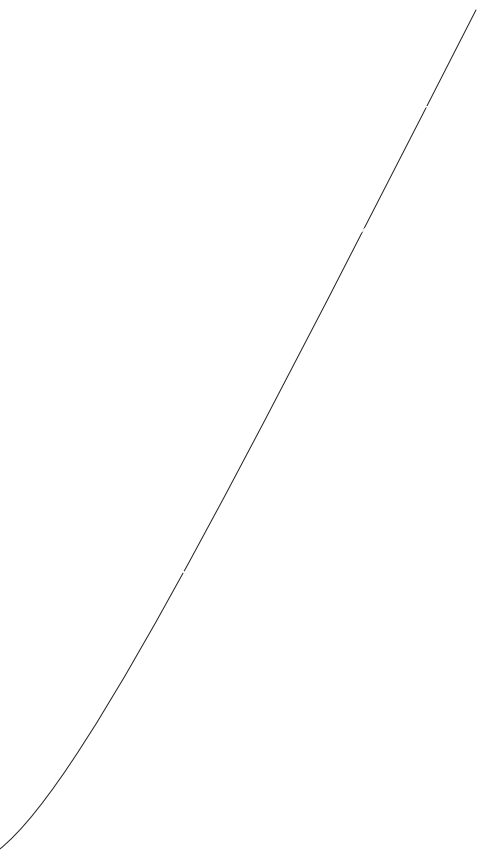
COMPONENT VIDEO OUT terminals
These terminals can be used for either interlace or progressive output and provide a purer picture than the S-VIDEO OUT terminal. Connection using these terminals outputs the color difference signals (P_B/P_R) and luminance signal (Y) separately in order to achieve high fidelity in reproducing colors. The description of the component video input terminals depends on the television or monitor (e.g. $Y/P_B/P_R$, Y/B-Y/R-Y, $Y/C_B/C_R$). Connect to terminals of the same color.

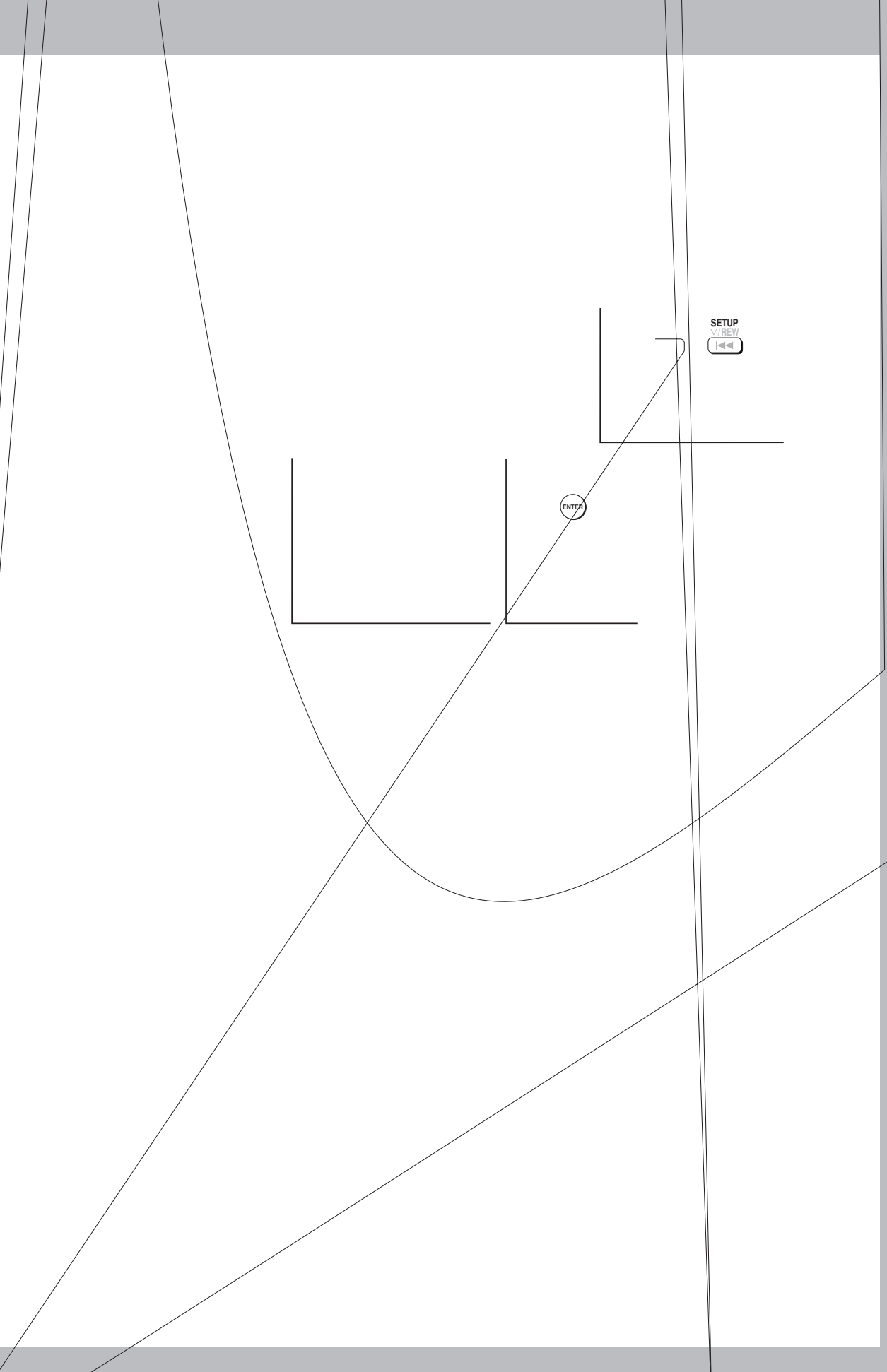
- After making this connection, change the black level for a better picture (➡ page 29, “Video” tab - Black Level Control).

To enjoy progressive video

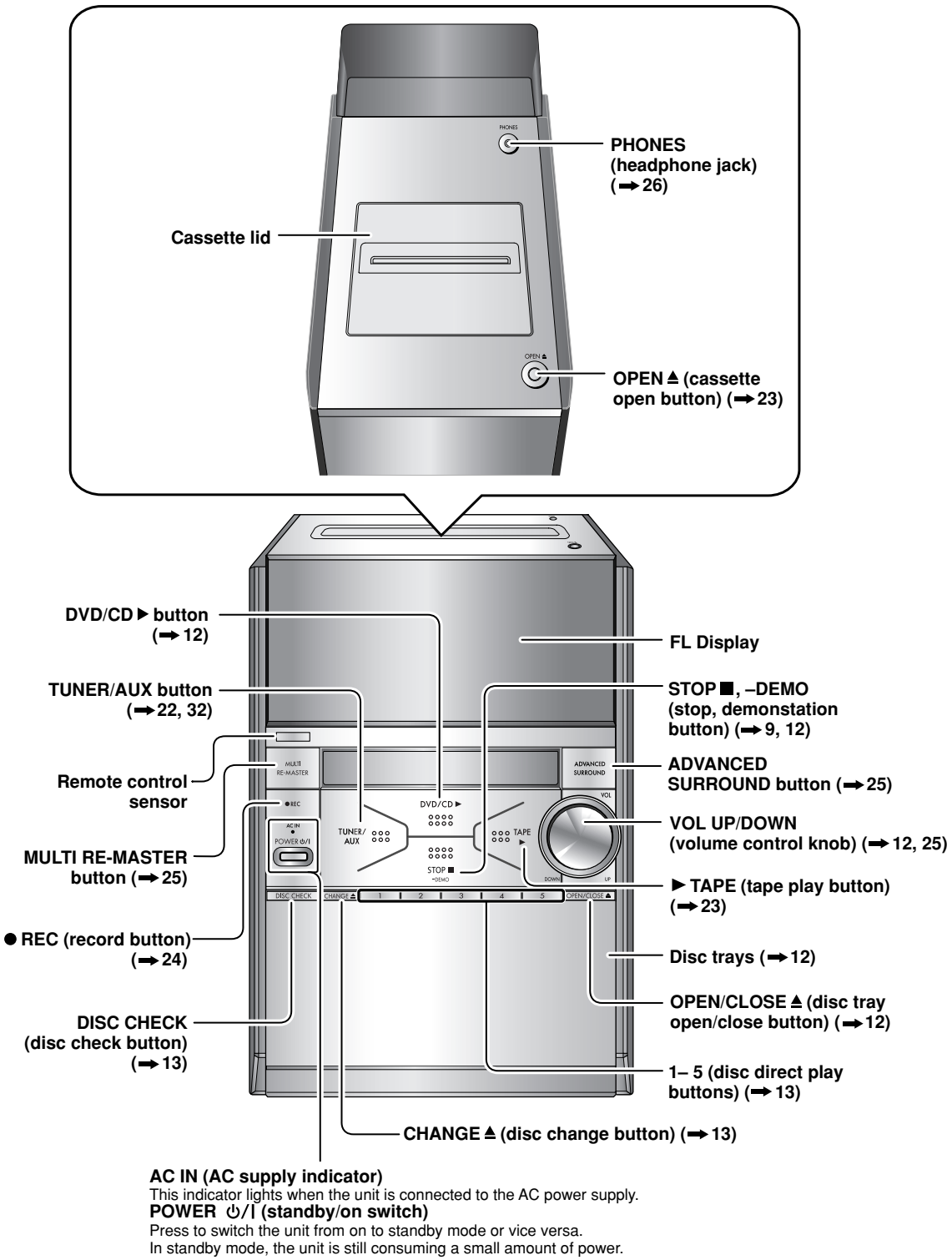
1. Connect to the component video input terminals on a 480P compatible television. (Video will not be displayed correctly if connected to an incompatible television.)
2. In QUICK SETUP, set “Progressive Out” to “Enable”.
3. Change “Progressive” to “480P” (➡ page 20, Picture Menu—Video Output Mode).

- All televisions manufactured by Panasonic and that have 480P input connectors are compatible. Consult the manufacturer if you have another brand of television.
- If the unit is connected to the television through VIDEO OUT or S-VIDEO OUT, output will be interlace, irrespective of the settings.




SETUP
∨/REW
ENTER

Main unit


PHONES
(headphone jack)
(➡26)
Cassette lid
OPEN ≜ (cassette
open button) (➡23)
DVD/CD ▶ button
(➡12)
TUNER/AUX button
(➡22, 32)
Remote control
sensor
MULTI RE-MASTER
button (➡25)
● REC (record button)
(➡24)
DISC CHECK
(disc check button)
(➡13)
FL Display
STOP ■, –DEMO
(stop, demonstation
button) (➡9, 12)
ADVANCED
SURROUND button (➡25)
VOL UP/DOWN
(volume control knob) (➡12, 25)
▶ TAPE (tape play button)
(➡23)
Disc trays (➡12)
OPEN/CLOSE ≜ (disc tray
open/close button) (➡12)
1– 5 (disc direct play
buttons) (➡13)
CHANGE ≜ (disc change button) (➡13)
AC IN (AC supply indicator)
This indicator lights when the unit is connected to the AC power supply.
POWER ⏻/I (standby/on switch)
Press to switch the unit from on to standby mode or vice versa.
In standby mode, the unit is still consuming a small amount of power.

Remote control

⑩ **Disc pause button [II DISC PAUSE]** 12
⑪ **Tuner/Aux button [TUNER/AUX]** 22, 32
⑫ **Tape play, Record button [► TAPE, ●REC]** 23, 24
⑬ **Top menu, Direct navigator button**

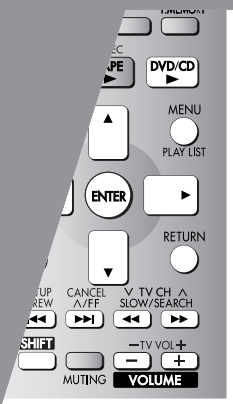
..... 26, 28

, 26

..... 25

..... 25
..... 13
P.MEMORY] 14
.REPLAY] 15
n [► DVD/CD] 12
button
LIST] 13, 16–18
uttons [▲, ▼, ◄, ►], Enter button
] 9
urn button [RETURN] 9, 13, 19
ow/search, tuning, character skip buttons
►► SLOW/SEARCH] 12, 16, 22
uttons also have the following functions.
: TV channel select buttons
[TV CH ∨, ∧] 28
[– , + , VOLUME] 12, 25
have the following functions.
ttons [TV VOL –, +] 28

⑤ Group
⑥ Repea
⑦ Play m
⑧ Progra
⑨ Stop b



- **If the disc contains both audio data (WMA and MP3) and JPEG**, select “Audio” to play WMA/MP3, “Picture” to play JPEG or “All” to play both audio and picture while the menu is displayed (except JPEG files on RAM disc). You can also access the menu by pressing [TOP MENU].

1
Open the disc tray.
- The unit turns on automatically and a tray opens.

2
Place disc.
- Load double-sided discs so the label for the side you want to play is facing up. (➡ page 37, Tray/disc handling procedure)
- Remove TYPE 2 and 4 discs from their cartridges before use.
Read the instructions for the disc carefully.

3
Close the disc tray.

4
Sta

(Group skip WMA MP3 JPEG)

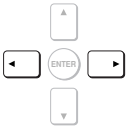
The stopped play position is memorized when “RESUME” is displayed.
- Press [▶ DVD/CD] to resume. DVD-V **To review the previous chapters** (➡ page 14, Position memory).
- Press [■ STOP] to clear the position.

- Press [▶ DVD/CD] to restart play.

DVD-A
- To select still pictures.

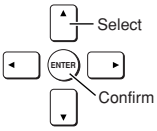
- Up to 5 steps.
- Press [▶ DVD/CD] to restart play.
- DVD-A Motion picture parts only.
- VCD Slow motion, forward direction only.

Frame-by-frame (during pause)

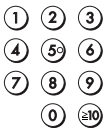


- DVD-A Motion picture parts only.
- VCD forward direction only.
- Pressing [II DISC PAUSE] also activates forward direction.

On-screen item select



Enter number



RAM DVD-A DVD-V
VCD CD
Example: To select 12:
[≧10] ➡ [1] ➡ [2]

VCD with playback control
- Press [■ STOP] then press the numbered buttons.

WMA MP3 JPEG
Example: To select 123:
[1] ➡ [2] ➡ [3] ➡ [ENTER]
- Press [SHIFT]+[CANCEL] to cancel the number(s).

Disc menu

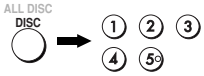
DVD-A DVD-V
Shows a disc top menu

DVD-V
Shows a disc menu

VCD
Shows a disc menu

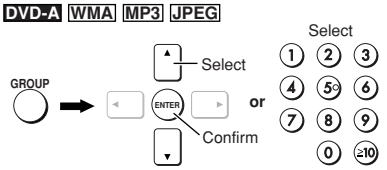
Return to previous screen

Selecting the disc



Selecting a group

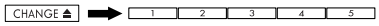
DVD-A WMA MP3 JPEG



All disc playback (during stop)

- ALL DISC ON ⟷ ALL DISC OFF
- DVD discs and JPEG tracks are skipped.
- HighMAT menus and video CD playback control are disabled.
- The mode cannot be changed during program or random play.

Changing a disc in the desired tray



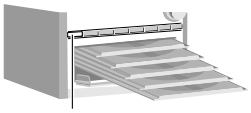
Press again to close the tray.

- You can also remove a disc while another is playing (except in all-disc random, program play or during recording).

Checking the disc location

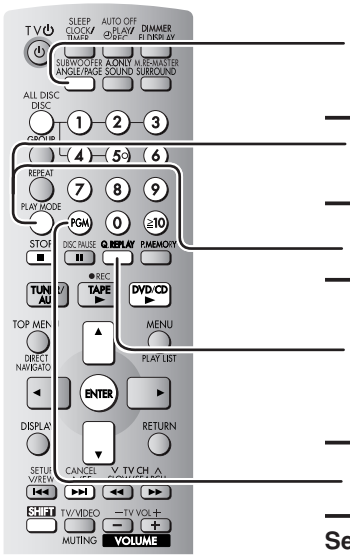
Press again to close the tray.

- This feature lets you check whether a 12 cm disc is in a tray.
- If a disc is being played, the corresponding tray will not open.
- Do not remove or insert discs during a disc check.
- Do not pull out the trays during a disc check.



- It may take some time for play to start but this is normal.
- Multiple-channel signals are down-mixed to stereo (2-channel). (➡ page 32, To enjoy multi-channel surround sound)
- **When playing VCDs with playback control (PBC)**
  Pressing buttons to perform skip, search or slow-motion may take you to a menu screen.

- Lights when a Dolby Digital or DTS disc is played.



SUBWOOFER ANGLE/PAGE

Angles
DVD-V (with multiple angles) – Angle select
JPEG – Still picture rotation
(During play)

PLAY MODE

All group play
Plays tracks in all the groups on a disc.
(During stop) DVD-A

PLAY MODE

Random play

Q.REPLAY

Quick replay
(Only when the elapsed play time can be displayed)
(During play) RAM DVD-A DVD-V VCD CD WMA MP3
To skip back a few seconds.

PGM

Program play

See below for details.

Random play

VCD CD (There is no on-screen display)
1-disc random: All the items on a disc in random order.
All-disc random: All the items on all the discs in random order.
DVD-A DVD-V WMA MP3 JPEG
1-disc random only: Selected items on a disc in random order.

During stop

1 Press [PLAY MODE] until the RANDOM screen appears.

2 (DVD-A DVD-V WMA MP3 JPEG)
Press the numbered buttons to select a group (WMA MP3 JPEG then press [ENTER]) or a title.
Example DVD-V

DVD-A
- You can select more than one group or all groups.
- To deselect a group, select the group again.

3 Press [► DVD/CD].

Note
- During random play, empty trays are skipped and the playback control function on Video CDs is cancelled.
- During random play, this unit can access up to 999 audio or picture contents and 400 groups.

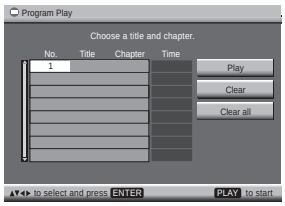
Program play (up to 24 items)

VCD CD (There is no on-screen display)
DVD-A DVD-V WMA MP3 JPEG Example: DVD-V

During stop

1 VCD CD
Press [DISC] and then disc button ([1] – [5]).
Press [■ STOP].

2 Press [PGM].
"PGM" appears.



3 Press the numbered buttons to select the items (WMA MP3 JPEG then press [ENTER]).
- Repeat this step to program other items.
- VCD CD Step **1** is unnecessary when programming tracks on the same disc.
- DVD-A DVD-V WMA MP3 JPEG
  To select an item using the cursor buttons
  Press [ENTER] and [▲, ▼] to select an item, then press [ENTER] again to confirm the number.
  All the items on the disc, title or group are selected when you select "ALL".

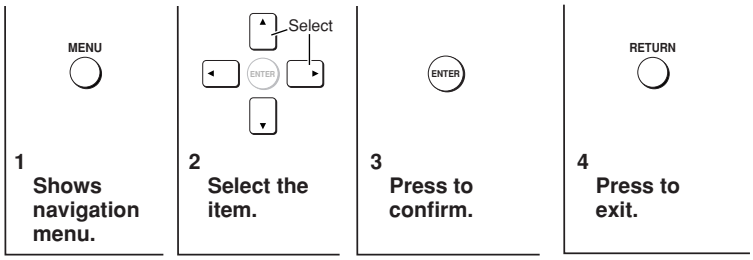
4 Press [► DVD/CD] to play.

- DVD-A DVD-V WMA MP3 JPEG
  To add to or change the program
  Press [▲, ▼] to select an available item, then repeat step **3**.
  To clear the whole program
  Select "Clear all" and press [ENTER].

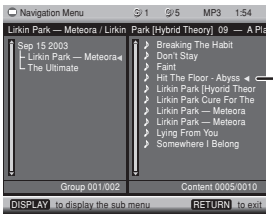
To clear an item
Press [SHIFT]+[CANCEL], or select "Clear" and press [ENTER].
- Press [ANGLE/PAGE] to skip 8 lines at a time.

Note
- Clear the existing program before creating a new program.
- DVD-V WMA MP3 JPEG
  Times are not displayed while programming.
- VCD CD
  Items the unit cannot find can be programmed but are cancelled during play. This is also the case if you program the discs other than Video CD and CD.
- The program is cleared when you switch the unit to standby, select another source, exit the program mode or move the disc out of the play position.
  VCD CD
  The program is retained in memory.

Note
- DVD-A If you select bonus groups, you will have to enter a password.
- Disable HighMAT disc play (➡ page 30, "Others" tab) to use random and program play.
- Quick replay feature may not work while playing some parts of a disc or at all with some discs.

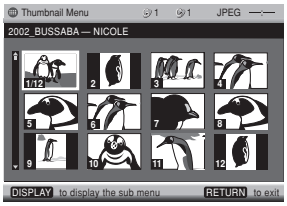


Example: WMA MP3 (Navigation menu)



Track currently playing

Example: JPEG (Thumbnails)



Search methods

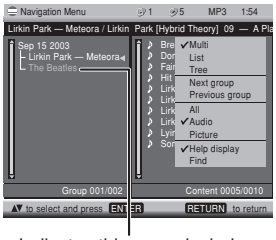
Using the tree screen to find a group WMA MP3 JPEG

1 **While the navigation menu is displayed, press [DISPLAY].**

2 **Press [▼] to select "Tree" and press [ENTER].**

3 **Press [▲, ▼] to select a group and press [ENTER].**

The navigation menu for the group appears.



Indicates this group includes non compatible files

Using a contents screen to find a track CD (CD text only)

While the menu is displayed

Press [▲, ▼] to move through the tracks and press [ENTER].

- Press [ANGLE/PAGE] to skip 10 lines at a time.

Using the submenu WMA MP3 JPEG

While the navigation menu is displayed, press [DISPLAY].

Multi	Groups and contents
List	Contents only
✓Tree	Groups only
Thumbnail	Thumbnail images JPEG
Next group	To go to next groups WMA MP3
Previous group	To go to previous groups WMA MP3
All	WMA/MP3 and JPEG files
✓Audio	WMA/MP3 files only
Picture	JPEG files only
✓Help display	To switch between guide messages and the elapsed play time indicator
Find	To search by content or group title

■ Searching by content or group title WMA MP3 JPEG

Place the cursor on the group title to search a group, or place the cursor on the content title to search contents.

1 **Select "Find" (➡ see above).**

2 **Press [▲, ▼] to select a character and press [ENTER].**

- Repeat to enter other characters.
- Lower case is also searched.
- Press [◀◀, ▶▶] to skip between A, E, I, O, and U.
- Press [◀] to erase a character.
- Erase the asterisk (*) to search only for the titles starting with that word.

3 **Press [▶] to select "Find" and press [ENTER].**

The search results screen appears.

4 **Press [▲, ▼] to select the content or group and press [ENTER].**

To return to the menu

Press [RETURN].

Tips for making WMA/MP3, CD text and JPEG discs

- Discs must conform to ISO9660 level 1 or 2 (except for extended formats).
- This unit is compatible with multi-session but if there are a lot of sessions it takes more time for play to start. Keep the number of sessions to a minimum to avoid this.
- The order in which the tracks appear in the menus may differ from the order shown on your computer.

Naming folders and files

At the time of recording, prefix folder and file names with 3-digit numbers in the order you want to play them (this may not work at times).

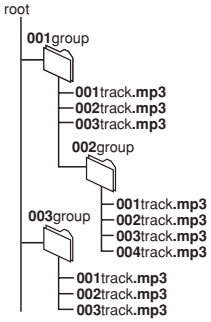
Files must have the extension:

".WMA" or ".wma"

".MP3" or ".mp3"

".JPG", ".jpg", ".JPEG" or ".jpeg"

Example: MP3



WMA

- Noise may occur when playing WMA files.
- You cannot play WMA files that are copy protected.

MP3

- This unit is not compatible with ID3 tags.
- If you play an MP3 track that includes still picture data, it will take some time before the music itself starts playing and the elapsed time will not be displayed during this time. Even after the track starts, the correct play time will not be displayed.

JPEG

- To view JPEG files on this unit:

— Take them on a digital camera that meets the DCF (Design rule for Camera File System) standard. Some digital cameras have functions that are not supported by the DCF standard like automatic picture rotation which may render a picture unviewable.

— Do not alter the files in any way or save them under a different name.

- This unit cannot display moving pictures, Motion JPEG and other such formats, still pictures other than JPEG (i.e. TIFF) or play associated sound.

CD (CD text only)

When making your own CD text discs

The unit plays the tracks in the order you record them so you do not have to prefix the titles with numbers.

Windows Media, and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries.

WMA is a compression format developed by Microsoft Corporation. It achieves the same sound quality as MP3 with a file size that is smaller than that of MP3.

Designed for Windows Media™

MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson multimedia.

Playing HighMAT discs WMA MP3 JPEG

A menu appears when you select the disc.

Press [▲, ▼, ◄, ►] to select then press [ENTER].

When you press [ENTER]:

Menu: Takes you to the next menu which shows play lists or another menu.

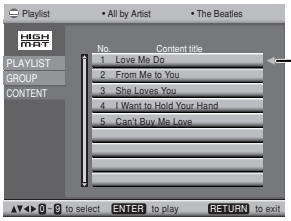
Play list: Play starts.

- **To display the screen**
  Press [TOP MENU].
- **To return to the menu above the current one**
  Press [RETURN].
- **To change the menu background**
  Press [DISPLAY].
  The background changes to the one recorded on the disc.
- **To exit the screen**
  Press [■ STOP].

Selecting from the lists

1 During play

Press [MENU].



Playing

2 Press [◄] then [▲, ▼] to switch between the play list, group and content lists.

3 Press [►] then [▲, ▼] to select an item and press [ENTER].

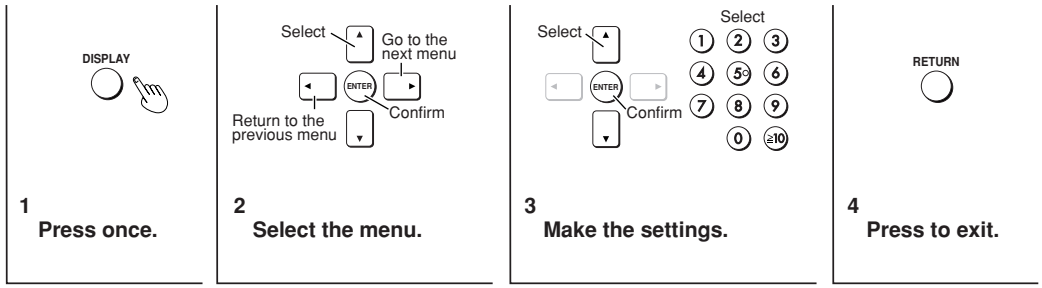
- Press [ANGLE/PAGE] to skip 10 lines at a time.
- **To exit the list screen**
  Press [MENU].

HIGH MAT AUDIO•IMAGE

HighMAT and the HighMAT logo are either trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.

TV
SLEEP
CLOCK/
TIMER
AUTO OFF
PLAY/
REC
DIMMER
FL DISPLAY
SUBWOOFER
ANGLE/PAGE
A.ONLY
SOUND
M.RE-MASTER
SURROUND
ALL DISC
DISC
GROUP
REPEAT
PLAY MODE
PGM
STOP
DISC PAUSE
Q.REPLAY
P.MEMORY
REC
TUNER/
AUX
TAPE
DVD/CD
TOP MENU
DIRECT
NAVIGATOR
MENU
PLAY LIST
ENTER
DISPLAY
RETURN
SETUP
V/REW
CANCEL
∧/FF
SHIFT
TV VOL
VOLUME

To get disc information or to play from a specified item



1 **Press once.**

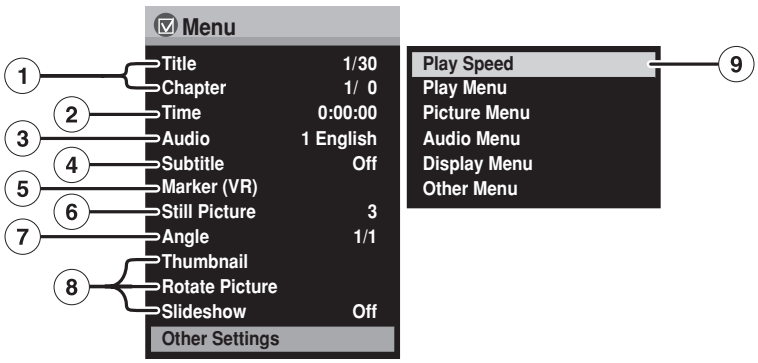
2 **Select the menu.**

3 **Make the settings.**

4 **Press to exit.**

Items shown differ depending on the type of software.

Example:



①

Program, Group, Title, Track, Chapter, Playlist, Content
To start from a specific item.

②

Time

Time Slip (during play) RAM DVD-A DVD-V
To skip the time forward or backward.
1. Press [ENTER] twice to show Time Slip indicator.
2. Press [▲, ▼] to enter the time and press [ENTER].
   • Press and hold [▲, ▼] to alter faster.

Time Search RAM DVD-A DVD-V
To start from a specific time.

Elapsed/Remaining Time RAM DVD-A DVD-V VCD CD
To change between elapsed or remaining time display.

③

Audio
(Discs with multiple soundtracks)

DVD-A
Play restarts from the beginning of the soundtrack when changing soundtracks that are accompanied by still pictures.

DVD-V (Karaoke discs)
You can also use this button to switch the vocals on and off.
Read the disc's instructions for details.

Karaoke vocals, on and off

Solo : On ⟷ Off
Duet : Off ⟷ V1 ⟷ V2 ⟷ V1+V2

RAM VCD
You can also use this button to select "L", "R" or "L R".

Audio attributes
See A ➡ page 21, Audio attributes.

④

Subtitle
DVD-A (Motion picture parts only)
DVD-V (Discs with multiple subtitle languages)
VCD (SVCD only)

To clear or display the subtitles
Press [▲, ▼] to select "On" or "Off".

Subtitle on or off RAM

⑤

Marker (VR) RAM
To recall a marker recorded on DVD-Video recorders.

⑥

Still Picture DVD-A
To view still pictures.

⑦

Angle DVD-V (Discs with multiple angles)
To select the angle. (➡ page 15, Angles)

⑧

Thumbnail JPEG
To show thumbnail images.

Rotate Picture JPEG
(➡ page 15, Angles)

Slideshow JPEG
To turn the slideshow on or off.
To change the timing (0–30 seconds) of the slideshow.

⑨

Other Settings—Play Speed
RAM DVD-A (Motion picture parts only) DVD-V

To change play speed
– from x0.6 to x1.4 (in 0.1 unit steps)
• After you change the speed:
  – Digital output switches to PCM-2ch.
• Sound is stereo as long as "Normal" is selected.

(Continued on next page)

⑩

Play Menu

Repeat (➡ page 14, Repeat play)

RAM DVD-A DVD-V

Except JPEG and RAM (still picture part).

A-B Repeat

RAM DVD-A DVD-V VCD CD WMA MP3

Except RAM (still picture part).

Repeat a section between points A and B within an item.

[ENTER] (start point) ➡ [ENTER] (finish point)
To cancel: [ENTER]

• A-B repeat is cancelled when you press [Q.REPLAY].

Marker

DVD-A DVD-V VCD CD WMA MP3 JPEG

To mark a position to play again (Marker).

• Press [►] to highlight the first asterisk and press [ENTER] again to mark a position.
You can mark up to 5 positions.

To mark another position: [◄, ►] ➡ [ENTER]
To recall a marker: [◄, ►] ➡ [ENTER]
To erase a marker: [◄, ►] ➡ [SHIFT]+[CANCEL]

• This feature does not work during program and random play.

⑪

Picture Menu

Picture Mode

RAM DVD-A DVD-V VCD JPEG

Normal
Cinema1: Mellows images and enhances detail in dark scenes.
Cinema2: Sharpens images and enhances detail in dark scenes.
Animation
Dynamic
User (Press [ENTER] to select "Picture Adjustment")
(➡ see below)

Picture Adjustment
Contrast **Brightness** **Sharpness** **Color**
Gamma (Adjusts the brightness of dark parts.)
Depth Enhancer

• Reduce the rough noise in the background to give a greater feeling of depth.

Video Output Mode

RAM DVD-A DVD-V VCD JPEG

To switch between Progressive (480P) and Interlace (480I) video.

Transfer Mode

RAM DVD-A DVD-V VCD

If you have chosen "480P" (➡ see above), select the method of conversion for progressive output to suit the type of material.

Auto1 (normal): For viewing film material
Auto2: For viewing film material (the same as Auto1, but able to convert 30-frame-per-second progressive video)
Video: For video material

⑫

Audio Menu

Advanced Surround

RAM DVD-A DVD-V VCD CD WMA MP3

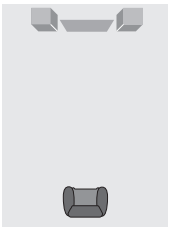
(2 channels or more)

Enjoy a surround-like effect when using front speakers or headphones. The effect broadens when playing discs with surround effects and sound seems to come from speakers on either side of you.

• **The level**
Off (cancel – factory setting)
Natural
Enhanced

Optimum seating position

<When using the television's speakers>
Distance A = Television's width



• This does not work or has less effect with some discs.
• Turn off if it causes distortion.
• Do not use in combination with surround effects on other equipment.

(➡ page 25, Advanced Surround)

Dialogue Enhancer

DVD-V

(Dolby Digital, DTS, 3-channel or over, where the dialogue is recorded in the center channel)

This makes the dialogue in movies easier to hear.

On ⟷ Off (Factory preset)

• This does not work or has less effect with some discs.

Multi Re-master

RAM DVD-A DVD-V CD

For discs recorded with multi-channels LPCM at 44.1 kHz or 48 kHz.
It adds higher frequency signal not recorded on the discs, which gives a more natural sound effect.

WMA MP3

For discs recorded at 44.1 kHz or 48 kHz.
This format reproduces the frequencies lost during recording to give you a sound closer to the original effect.

(➡ page 25, Multi Re-master—Enjoying more natural sound)

Display Menu

Subtitle Position DVD-V
0 to –60 in 2 unit steps.

Subtitle Brightness DVD-V
"Auto" to automatically adjust the brightness against the background, or 0 to –7.

Information
On ⟷ Off
(JPEG : Off, Date, Details.)

4:3 Aspect RAM DVD-A DVD-V VCD JPEG
To select how to show images made for 4:3 aspect screens on a 16:9 aspect television.
Normal: Laterally stretches images.
Auto: Expands 4:3 letterbox images to fill more of the screen. Other images appear in full in the center of the screen.
Shrink: Images appear in the center of the screen.
Zoom: Expands all images to fill the screen.
If your television has a similar feature, use it instead for a better effect.

Just Fit Zoom
⑬
RAM DVD-A (Motion picture parts only)
DVD-V VCD
Preset zoom ratios suitable for the following video formats are available.

Auto		American Vista	1.85:1
4:3 Standard	4:3	Cinemascope1	2.35:1
European Vista	1.66:1	Cinemascope2	2.55:1
16:9 Standard	16:9		

Manual Zoom
RAM DVD-A (Motion picture parts only)
DVD-V VCD
Fine adjustments
Press [▲, ▼].
– from x1.00 to x1.60 (in 0.01 units)
– from x1.60 to x2.00 (in 0.02 units)

Bitrate Display
RAM DVD-A (Moving picture parts only) DVD-V VCD
When you select "On":
During play: shows the bitrate (approximate values) of the video being played
During pause: shows the data volume of the frame and type of picture (➡ page 37, Glossary—I/P/B)

GUI See-through
To enable the on-screen menu to become translucent.

GUI Brightness (–3 to +3)
To adjust the brightness of the on-screen displays.

Other Menu

⑭

Play as DVD-Video or Play as DVD-Audio
While stopped
- Select "Play as DVD-Video" to play DVD-Video contents of DVD-Audio.

Play as DVD-VR, Play as HighMAT or Play as Data Disc
While stopped
- Select "Play as Data Disc" to play JPEG files on DVD-RAM or to play HighMAT disc without using the HighMAT function.

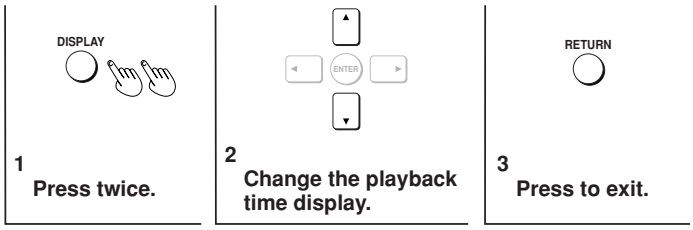
A Audio attributes

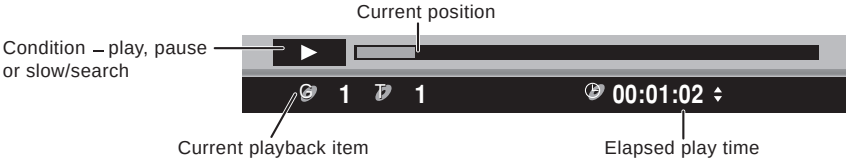
LPCM/PPCM/Digital/DTS: Signal type
kHz: Sampling frequency
bit: Number of bits
channel: Number of channels

Example:
3 / 2 .1ch
- .1: Low frequency effect (not displayed if there is no signal)
- 0: No surround
- 1: Mono surround
- 2: Stereo surround (left/right)
- 1: Center
- 2: Front left + Front right
- 3: Front left + Front right + Center

To see the playback position

RAM DVD-A DVD-V VCD CD WMA MP3





Manual tuning

TUNER/ AUX

1 **Select “FM” or “AM”.**

FM → AM → AUX

◀◀ or ▶▶

2 **Select the frequency of the desired station.**

– + VOLUME

3 **Adjust the volume.**

- **Press and hold [◀◀] or [▶▶] until the frequency starts scrolling to start automatic tuning. Tuning stops when a station is found.**

“ST” is displayed when a stereo FM broadcast is being received.

If noise is excessive in FM

1. Press [PLAY MODE] to display “MONO”.
2. Press [PLAY MODE] again to cancel the mode.

(The mode is also cancelled when you change the frequency)

■ FM frequency step (main unit only)

The step is factory-set to 0.2 MHz, but you can change it to receive broadcasts allocated to 0.1 MHz steps.

1. Select “FM”.
2. Press and hold [TUNER/AUX].
   After a few seconds the display changes to show the current minimum frequency. Continue to hold the button down. The minimum frequency changes and the step is changed.

To return to the original step, repeat the above steps.

Note

After changing the “allocation” setting, the frequencies you previously preset in the memory will be cleared. Preset them again.

Preset tuning

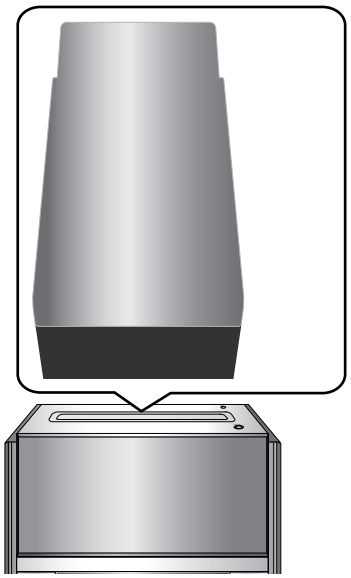
Preset channels to make selection simpler. Up to 15 stations can each be set in the FM and AM bands.

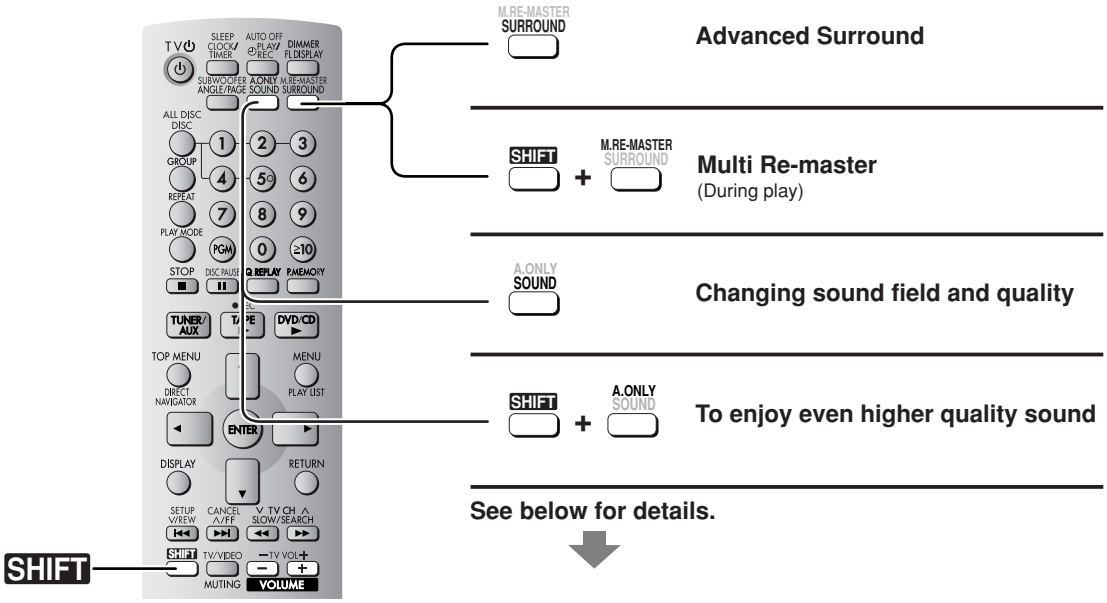
Manual presetting

Tune to the desired station (➡ see above).

PGM The station occupying a channel is erased if another station is presetin that channel.(

1 2 3
4 5 6





Advanced Surround

Press [SURROUND] (main unit: [ADVANCED SURROUND]).

Every time you press the button:

→ **ADV SURR 1**: Natural effect
↓
ADV SURR 2: Enhanced effect
↓
SURR OFF: Cancel (factory preset)

(➡ page 20, Audio Menu)

Multi Re-master — Enjoying more natural sound

RAM DVD-A DVD-V CD
Discs recorded with multi channels LPCM at 44.1 kHz or 48 kHz
This feature gives you a more natural sound by adding the higher frequency signals not recorded on the disc.

WMA MP3
Discs recorded at 44.1 kHz or 48 kHz
This feature reproduces the frequencies lost during recording to give you a sound closer to the original.

During play
Every time you press [SHIFT]+[M.RE-MASTER]
(main unit: [MULTI RE-MASTER]):

Setting	RAM DVD-A DVD-V CD Type of music	WMA MP3 Effect level
1	High tempo (e.g., pops and rock)	Light
2	Various tempos (e.g., jazz)	Medium
3	Low tempo (e.g., classical)	Strong
Off	Off	Off

Note
The actual output sampling frequency depends on the PCM Digital Output setting (➡ page 31, PCM Digital Output) when using a digital connection (➡ page 32, Home Theater — Enjoying more powerful sound).

Changing sound field and quality

Preset EQ

1 Press and hold [SOUND] to select "PRESET EQ".
Every time you press and hold the button:
MANUAL EQ ↔ PRESET EQ

2 Press [SOUND] to select a setting.
Every time you press the button:

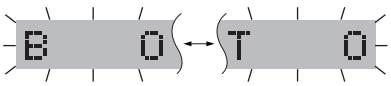
→ HEAVY → CLEAR → SOFT → VOCAL →
OFF ←

HEAVY: Adds punch to rock
CLEAR: Clarifies higher sounds
SOFT: For background music
VOCAL: Adds gloss to vocal

Manual EQ

1 Press and hold [SOUND] to select "MANUAL EQ".
Every time you press and hold the button:
MANUAL EQ ↔ PRESET EQ

2 Press [SOUND] to select a setting.
Every time you press the button:



Bass Treble

3 Press [–, +, VOLUME] while either "B" (Bass) or "T" (Treble) is flashing to change the level.

To enjoy even higher quality sound—AUDIO ONLY

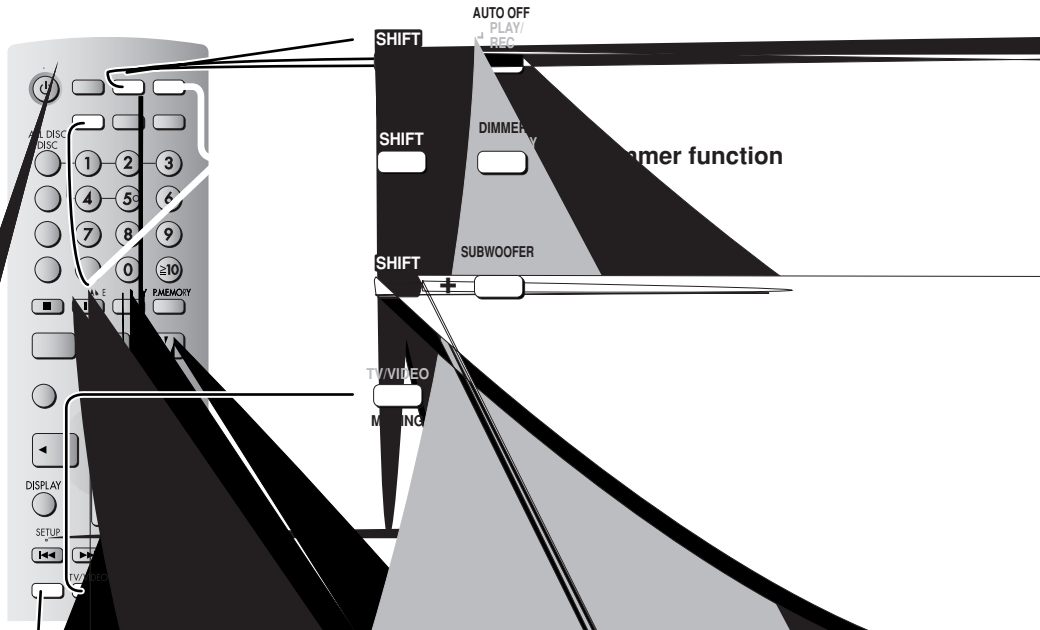
You can enjoy higher quality audio by stopping the video output.

During play

Press [SHIFT] + [A.ONLY].

- AUDIO ONLY is cancelled if you press [SHIFT]+[A.ONLY] again or switch the unit to standby.
- There is output to the screen only when:
  – the disc is stopped.
  – performing operations such as searching.
  – on screen display is displayed.

Note
The feature may not work depending on the discs' recording.



Auto-off function

When [illegible] or tape is selected as the sou[illegible]
To sa[illegible]ower, the unit turns off if it is left [illegible]

Pre[illegible]SHIFT] + [AUTO OFF].
"A[illegible] is shown on the display.
Th[illegible]nction does not work if the source is t[illegible]

To cancel
Press [SHIFT]+[AUTO OFF] again to clear "A.OFF" display.

Using your reference
"A.OFF" disappears from the display but continues to function normally when either tuner or AUX is selected as the source.
"A.OFF" remains displayed if disc or tape is selected as the source.

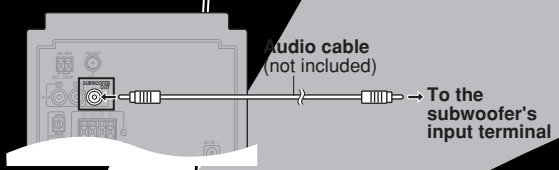
Dimming the display

Use this when you are going to sleep or any other time you would prefer to dim the display panel.

Press [SHIFT] + [DIMMER].
To return to the original brightness, press [SHIFT]+[DIMMER] again.

Enjoying more powerful bass

- Connect an active subwoofer (not included). See below for connection.
- Place the subwoofer as close as possible to the front center.



Adjusting the bass

Press [SHIFT] + [SUBWOOFER].

SUB W MIN

Every time you press the buttons:

SUB W MIN (factory preset) → SUB W MID → SUB W MAX

Adjust the volume on the subwoofer to suit your preference.

Note
When using headphones, the subwoofer should be switched off.

Muting the volume

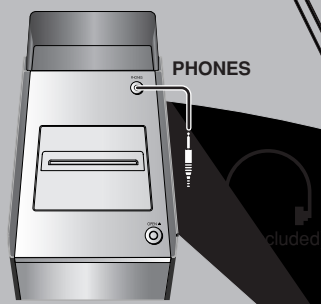
Press [MUTING].

MUTING

Volume is reduced to minimum.

To cancel
Press [MUTING] again or reduce the volume to minimum (--dB), then raise it to the required level.
Muting is also cancelled when you switched the unit to standby.

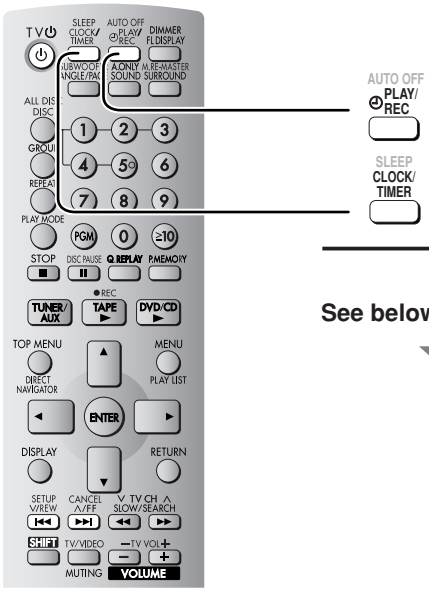
Using headphones



Reduce the volume level and connect the headphones (not included).
Headphones plug type: 3.5

Audio is auto[illegible]nnel).

Note
Avoid listen[illegible]nt hearing damage.



Play/record timer

See below for details.

The play/record timer

You can set the timer to come on at a certain time to wake you up (play timer) or to record a radio station or from the aux source (record timer).
The play and record timers cannot be used together.

- **Switch on the unit and set the clock** (➡ page 9, Setting the time).
- **For the play timer**, prepare the desired music source (tape/disc/radio/aux), and set the volume.
- **For the record timer**, check the cassette's erasure prevention tabs (➡ page 24, Erasure prevention) and insert the tape (➡ page 23, Cassette tapes). Tune to the radio station (➡ page 22, The radio) or select the aux source (➡ page 32, Using an external unit).

1 Press [CLOCK/TIMER] to select the timer function.

Every time you press the button:

CLOCK → ◴PLAY → ◴REC
↑ Previous display ←

◴PLAY: to set the play timer
◴REC: to set the record timer

2 ON time setting

① **(Within 6 seconds or so)**
Press [⏮ ∨/REW] or [⏭ ∧/FF] to set the start time.
② **Press [CLOCK/TIMER].**

3 OFF time setting

① **Press [⏮ ∨/REW] or [⏭ ∧/FF] to set the finish time.**
② **Press [CLOCK/TIMER].**
The start and finish times are now set.

4 Press [◴PLAY/REC] to display the timer indicator.

Every time you press the button:

◴PLAY → ◴REC
↑ (off) ←

◴PLAY: to turn the play timer on
◴REC: to turn the record timer on
(The indicator doesn't appear if the start and finish times or the clock have not been set.)

5 Press [⏻] to turn the unit off.

The unit must be off for the timers to operate.

- **Play timer:** Play will start in the set condition at the set time with volume increasing gradually to the set level.
- **Record timer:** The unit comes on 30 seconds before the set time with the volume muted.

To cancel the timer
Press [◴PLAY/REC] to clear the timer indicator from the display.
(The timer comes on at the set time everyday if the timer is on.)

To change the settings (when the unit is on)

To change the play/record times
Do steps 1, 2, 3 and 5.
To change the source or volume
1. Press [◴PLAY/REC] to clear the timer indicator from the display.
2. Make changes to the source or volume.
3. Do steps 4 to 5.

To change the timer
Press [◴PLAY/REC] to select the desired timer.
Every time the button is pressed:

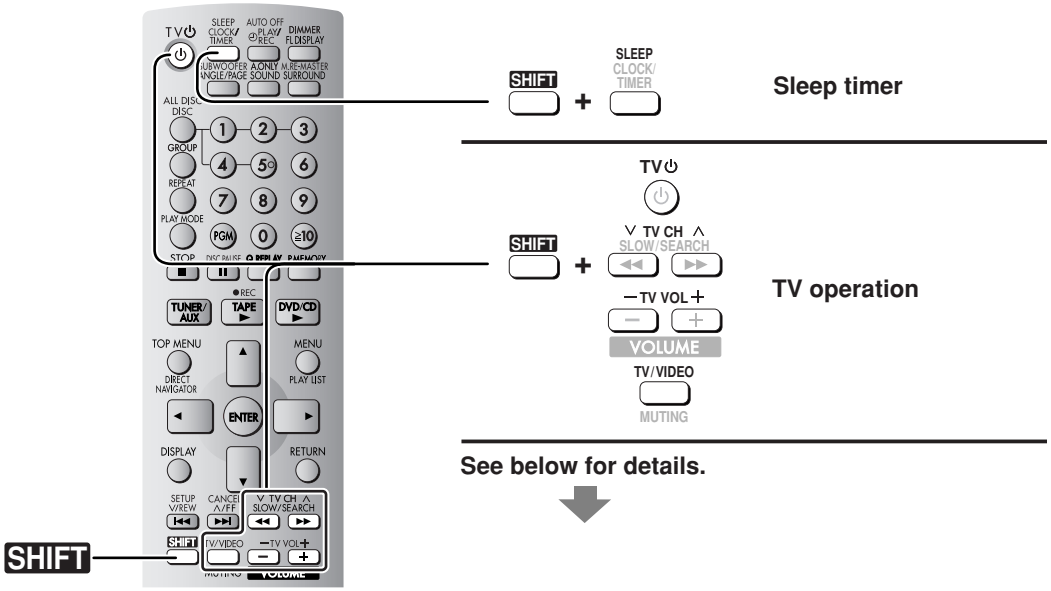
◴PLAY → ◴REC
↑ (off) ←

To check the settings
Press [CLOCK/TIMER] while the unit is on to select "◴PLAY" or "◴REC".
The settings are shown in the following order:
Play timer: start time → finish time → source → volume
Record timer: start time → finish time → source
To check the settings while the unit is off, press [CLOCK/TIMER] twice.

If you use the unit after the timers are set
After using, check that the correct tape/disc are loaded before turning the unit off.

Note

- If you turn the unit off and on again while a timer is functioning, the finish time setting will not be activated.
- If you selected AUX as the source, when the timer comes on, the unit turns on and engages "AUX" as the source. If you want to playback or record from a connected unit, set that unit's timer to the same time. (See the connected unit's instruction manual.)



The sleep timer

This timer turns the unit off after a set time.

While enjoying the desired source:

Press [SHIFT] + [SLEEP] to select the time (minutes).

Every time you press the button:

→ SLEEP 30 → SLEEP 60 → SLEEP 90 → SLEEP 120 → SLEEP OFF

To cancel the sleep timer

Press [SHIFT]+[SLEEP] to select “SLEEP OFF”.

To confirm the remaining time

Press [SHIFT]+[SLEEP] once.

The remaining time is shown for about 5 seconds.

To change the setting

Press [SHIFT]+[SLEEP] to select the new setting.

You can use the sleep timer in combination with the play/record timer.

Make sure the unit is off before the play/record timer’s start time.

Note

The sleep timer will be turned off when you start recording from a disc.

Operating a television

Face the remote control at the television for the following operations.

Turning the television on/off

Press [SHIFT] + [TV⏻].

Switching the television’s video input mode

Press [SHIFT] + [TV/VIDEO].

Changing channels

Press [SHIFT] + [∨ TV CH] or [SHIFT] + [TV CH ∧].

Adjusting the volume

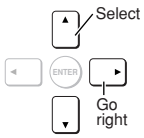
Press [– TV VOL] or [SHIFT] + [TV VOL +].

Note

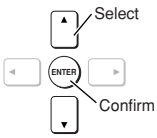
Some models cannot be operated by this remote control.

Discs — Changing the player's settings

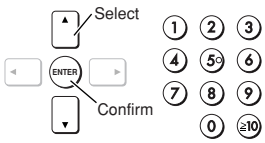
1
Shows SETUP menu.



2
Select the menu tab.



3
Select the item.



4
Make the settings.

5
Press to exit.

- **The settings remain intact even if you switch the unit to standby.**
- **Underlined items are the factory preset.**

■ "Disc" tab—To choose the language and set a rating level

Audio
Choose the audio language.
- English
- Original※1
- (Language options)
- Other ★★★★※2

Subtitle
Choose the subtitle language.
- Automatic※3
- (Language options)
- English
- Other ★★★★※2

Menus
Choose the language for disc menus.
- English
- (Language options)
- Other ★★★★※2
- Changing the menu language from QUICK SETUP also changes this setting.

Language options
※4
- French
- Spanish

※5
- French
- Spanish
- Portuguese

Ratings
Set a ratings level to limit DVD-Video play. The password screen is shown when you select levels 0 to 7.

To enter a password
1. Input a 4-digit password with the numeric buttons.
   - If you enter a wrong number, press [SHIFT]+[CANCEL] to erase it.
   - **Do not forget your password.**
2. Press [ENTER].
   - The lock symbol appears closed to show the rating is locked.
3. Press [ENTER] to confirm the 4 digits.

Setting ratings (When level 8 is selected)
- 8 No Limit
- 1 to 7※6
- 0 Lock All: To prevent play of discs without ratings levels.

Changing ratings (When level 0 – 7 is selected)
- Unlock Player
- Change Password
- Change Level
- Temporary Unlock

If you insert a DVD-Video that exceeds the ratings limit you set, a message appears on the television. Follow the on-screen instructions.

■ "Video" tab—To enable progressive output or to make settings to suit your television

TV Aspect
Choose the setting to suit your television and preference.
- Changing the TV aspect from QUICK SETUP also changes this setting.

- 4:3 Pan&Scan:
  Regular aspect television (4:3)
  The sides of the widescreen picture are cut off so it fills the screen (unless prohibited by the disc).

- 4:3 Letterbox:
  Regular aspect television (4:3)
  Widescreen software is shown in letterbox style on a 4:3 aspect television.

- 16:9
  Widescreen television (16:9)

Progressive Out (Component)
Choose "Enable" to enable progressive output.
- Disable
- Enable

TV Type
Select to suit the type of television.
- Standard (Direct View TV)
- CRT Projector
- LCD TV/Projector
- Projection TV
- Plasma TV

Time Delay
When connected with an AV amplifier and Plasma display, adjust if you notice the audio is out of sync with the video.
- 0ms
- 20ms
- 40ms
- 60ms
- 80ms
- 100ms

Still Mode
Specify the type of picture shown when paused.
- Automatic
- Field
- Frame

Black Level Control
Change the black level of the picture if you connected a television through the COMPONENT VIDEO OUT terminals.
- Lighter: When connected through VIDEO OUT or S-VIDEO OUT.
- Darker: When connected through COMPONENT VIDEO OUT.

■ "Audio" tab—To make settings to suit your digital connection and other audio settings

PCM Digital Output (➡ page 31, Digital output)	• Up to 48 kHz	• Up to 96 kHz
Digital Audio Output (➡ page 31, Digital output)	• On	• Off
Dolby Digital (➡ page 31, Digital output)	• Bitstream	• PCM
DTS Digital Surround (➡ page 31, Digital output)	• PCM	• Bitstream
Dynamic Range Compression (Dolby Digital only)	• Off • On: Adjust for clarity even when the volume is low through compressing the range of the lowest sound level and the highest sound level. Convenient for late night viewing.	
Audio during Search Choose whether to have sound during search.	• On (This feature does not work for some discs.)	• Off

■ "Display" tab—To choose the on-screen message language or to turn languages off

Menu Language Choose the language for these menus and the on-screen messages.	※4 • English ※5 • English	• Français • Français	• Español • Español	• Português
On-Screen Messages Choose whether to show on-screen messages or not.	• On		• Off	

■ "Others" tab— To select either still picture data or audio data when playing discs including both data and other settings

HighMAT Play HighMAT discs as HighMAT discs, or as regular WMA/MP3/JPEG discs.	• Enable: Play HighMAT discs as HighMAT discs. • Disable: Play HighMAT discs as regular WMA/MP3/JPEG discs.
QUICK SETUP Answers questions to make basic settings.	• Yes • No
Re-initialize Setting This returns all values in the SETUP menus to the default settings.	• Yes: The password screen is shown if "Ratings" (➡ page 29, "Disc" tab) are set. Please enter the same password. Turn the unit off and on again. • No

※1 The original language of each disc is selected.
※2 Input a code number with the numbered buttons (➡ page 33, Language code list).
※3 If the language selected for "Audio" is not available, subtitles of that language will automatically appear if it is available on that disc.

※4 **For U.S.A. and Canada**
※5 **For Latin America**
※6 Prohibits play of DVD-Video with corresponding ratings recorded on them.

Digital output

RAM **DVD-A** **DVD-V** VCD CD WMA MP3

Change the settings when you have connected equipment through this unit's OPTICAL OUT terminal (➡ page 32, Home Theater—Enjoying more powerful sound).

PCM Digital Output

Select the maximum sampling frequency of PCM digital output.
Check the digital input limitations of the equipment you connect.

Off: When not connected digitally
Up to 48 kHz (factory preset):
Signals over 48 kHz converted to 48 or 44.1 kHz
Up to 96 kHz: Signals over 96 kHz converted to 48 or 44.1 kHz

Note

- Signals from copy-protected discs are converted to 48 or 44.1 kHz irrespective of the setting.
- Some equipment cannot handle sampling frequencies of 88.2 kHz, even if it can handle 96 kHz. Read your equipment's operating instructions for details.

Dolby Digital and DTS Digital Surround

Bitstream (Factory preset for Dolby Digital):
Select if the equipment you connected can decode the signal.

PCM (Factory preset for DTS Digital Surround):
Select if the equipment you connected cannot decode the signal.

IMPORTANT
If the equipment you connected cannot decode the signal, the setting must be changed to PCM. If not, signals the equipment cannot process will be output by this unit, causing high levels of noise which can damage your hearing and the speakers.

Manufactured under license from Dolby Laboratories.
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"DTS" and "DTS Digital Surround" are registered trademarks of Digital Theater Systems, Inc.

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Apparatus Claims of U.S. Patent Nos. 4,631,603, 4,577,216, and 4,819,098, licensed for limited viewing uses only.

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

Before connection
- Disconnect the AC power supply cord.
- Turn off all equipment and read the appropriate operating instructions.
- The equipment connections described are examples only.
- Peripheral equipment and optional cables sold separately unless otherwise indicated.

Home Theater — Enjoying more powerful sound

Enjoy the powerful movie theater and hall-like sound available with multiple channel audio found on DVD-Video by connecting an amplifier and speakers. (DVD-A Even if using this connection, output will be only 2 channels.)

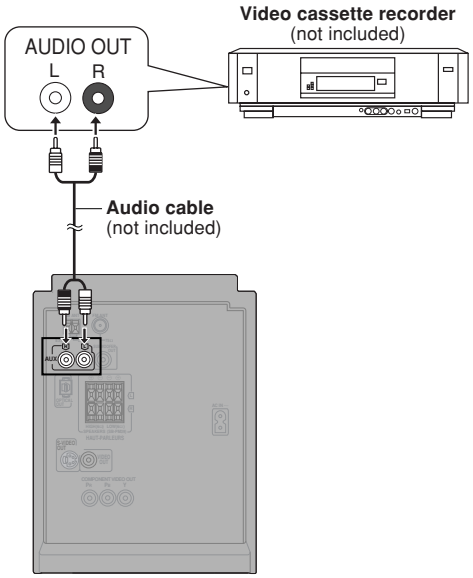
To enjoy multi-channel surround sound
Connect an amplifier with a built-in decoder or a decoder-amplifier combination.
Change the settings in “Digital output” (➡ page 31).
- You can only use DTS Digital Surround decoders that are compatible with DVD.

Recording Output
- With DVD, the following conditions must be met: ⓐ the disc doesn’t have protection preventing digital recording, and ⓑ the recording equipment can handle signals wth a sampling frequency of 48 kHz.
- You cannot record WMA/MP3.

When recording DVDs, make the following settings.
– Advanced Surround: SURR OFF (➡ page 25)
– PCM Digital Output: Up to 48 kHz (➡ page 31, Digital output)
– Dolby Digital and DTS Digital Surround: PCM (➡ page 31, Digital output)

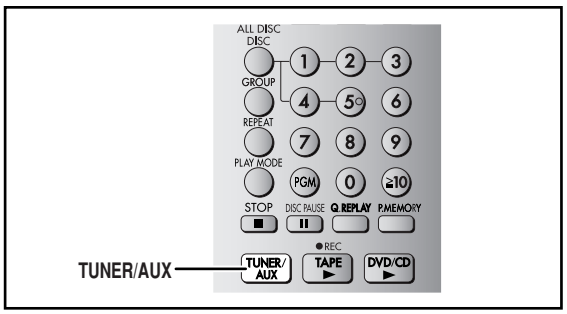
Using an external unit

You can playback the sound from a video cassette recorder, tape deck, laser disc player, etc., through this unit’s speakers.



When connecting a record player
We recommend using a record player with a built-in phono equalizer. If your player doesn’t have a built-in equalizer, connect it first to a separate equalizer and then connect that to this unit.

To playback



1 Press [TUNER/AUX] to select “AUX”.
The unit comes on.
Every time you press the button:
FM → AM → **AUX**

2 Start playback from the external source.
(For details, refer to the external unit’s instruction manual.)

Abkhazian:	6566	Danish:	6865	Italian:	7384
Afar:	6565	Dutch:	7876	Japanese:	7465
Afrikaans:	6570	English:	6978	Javanese:	7487
Albanian:	8381	Esperanto:	6979	Kannada:	7578
Ameharic:	6577	Estonian:	6984	Kashmiri:	7583
Arabic:	6582	Faroese:	7079	Kazakh:	7575
Armenian:	7289	Fiji:	7074	Kirghiz:	7589
Assamese:	6583	Finnish:	7073	Korean:	7579
Aymara:	6588	French:	7082	Kurdish:	7585
Azerbaijani:	6590	Frisian:	7089	Laotian:	7679
Bashkir:	6665	Galician:	7176	Latin:	7665
Basque:	6985	Georgian:	7565	Latvian, Lettish:	7686
Bengali; Bangla:	6678	German:	6869	Lingala:	7678
Bhutani:	6890	Greek:	6976	Lithuanian:	7684
Bihari:	6672	Greenlandic:	7576	Macedonian:	7775
Breton:	6682	Guarani:	7178	Malagasy:	7771
Bulgarian:	6671	Gujarati:	7185	Malay:	7783
Burmese:	7789	Hausa:	7265	Malayalam:	7776
Byelorussian:	6669	Hebrew:	7387	Maltese:	7784
Cambodian:	7577	Hindi:	7273	Maori:	7773
Catalan:	6765	Hungarian:	7285	Marathi:	7782
Chinese:	9072	Icelandic:	7383	Moldavian:Hu7nesian:	7378608.6(7776) TNauru-0.000 Tc 8lingua: 7365
Corsican:	6779	Indonesian:	7378		
Croatian:	7282	Interlingua:	7365		
Czech:	6783	Irish:	7165		

Troubleshooting guide

Before requesting service, make the following checks. If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the “Customer Services Directory” on page 39 if you reside in the U.S.A., or refer to “Product information” on page 4 if you reside in Canada.

Operation

No response when any buttons are pressed.

No operations can be performed with the remote control.

Cannot switch on the television with the remote control.

Play doesn’t start (or stops immediately) when you press [▶ DVD/CD].

Cannot select alternative languages.

No menu play.

No subtitles.

The position of the subtitles is incorrect.

Soundtrack and/or subtitle language is not the one selected with the SETUP menus.

Cannot change angle.

The SETUP menu cannot be accessed.

Cannot add markers.

There are already markers. [redacted]

Listening to the radio

Noise is heard. **"ST" flickers or doesn't light.** **Sound is distorted.**	• Adjust the position of the FM or AM antenna. • Use an outdoor antenna.	**–** **33**
A beat sound is heard.	• Turn the television off or separate it from the unit.	**–**
A low hum is heard during AM broadcasts.	• Separate the antenna from other cables and cords.	**–**

Using the cassette deck

Poor quality sound.	• Clean the heads.	**36**
Recording is not possible.	• If the erasure prevention tabs have been removed, cover the holes with adhesive tape.	**24**

Sound

No sound. **Distorted sound.**	• Check the connections. • Turn the volume up. • Turn muting off. • Turn Advanced surround off if it causes distortion. • Switch off the unit, determine and correct the causes, then switch the unit on. Causes include: – Shorting (bare wires touching) of positive and negative speaker wires. – Using speakers with an impedance lower than that rated for this unit. – Straining of the speakers through excessive volume or power. – Using the unit in a hot environment without proper ventilation.	**6** **–** **26** **25** **–**
Piercing noise comes from the speakers.	• If you have connected this unit to other equipment through the OPTICAL OUT terminal, ensure you have selected the correct settings for "Dolby Digital" and "DTS Digital Surround" in the SETUP menus' "Audio" tab.	**31**

Picture

Picture distorted.	• Some distortion is normal during SEARCH.	**–**
No picture.	• Check the connection. • Make sure the television is on. • Ensure the television's video input setting (e.g., VIDEO 1) is correct.	**7** **–** **–**
The picture shown on the television is not normal. **(The sides of the picture are cut off, the picture is stretched horizontally, or black bands appear at the top and bottom of the screen.)**	• Go to "Video" tab in the SETUP menus, and change "TV Aspect" to suit your television. • Use the television to change the aspect to the correct one. **If your television cannot change the aspect when input is progressive,** try changing 4:3 Aspect in Picture Menu. • Ensure that the unit is connected directly to the television, and is not connected through a video cassette recorder. • Change the size with the zoom function. • Connect to the component video (480P) input terminals on a television compatible with this unit's copy guard system. You cannot view progressive video if your television is not compatible. • The images on PAL system DVD-Audio are compressed for display. They may also appear vertically stretched.	**29** **–** **20** **–** **21** **7** **–**
There is ghosting when progressive output is on.	• Change "Video Output Mode" to "480I" so "PROGRESSIVE" on the display goes out. This problem is caused by the editing method or material used on DVD-Video, but should be corrected if you use interlace output.	**20**
Picture quality is poor.	• Check the settings in Picture Menu.	**20**
The picture on the television disappears or stripes appear on the screen.	• Mobile telephone chargers can cause some disturbance. • The location and orientation of the antenna are incorrect. If you are using an indoor antenna, change to an outdoor antenna. • The television antenna wire is too close to the unit. Separate the antenna wire of the television from the unit.	**–** **33** **–**
Menus not displayed correctly.	• Change the zoom ratio to "x1.00". • Set "Subtitle Position" in Display Menu to "0". • Set "4:3 Aspect" in Display Menu to "Normal".	**21** **21** **21**

Unit displays

Although the unit is in standby mode, the display lights up and changes continuously.	• Turn off the demo function. • If you set the clock, demo function will be turned off automatically.	**9** **9**
The display is dark.	• Press [SHIFT]+[DIMMER] until the display returns to the original brightness.	**26**
"DVD NO PLAY"	• You inserted a disc which the unit cannot play; insert one that can. • You inserted a blank DVD-RAM disc.	**5** **–**
"DVD NO DISC"	• You haven't inserted a disc; insert one. • You haven't inserted the disc correctly; insert it correctly.	**–** **12, 37**
"F61"	• Check and correct the speaker cord connections. If this does not fix the problem, there is a power supply problem. Consult the dealer.	**6**
"DVD U11"	• Disc is dirty. Wipe it clean.	**5**
"ERROR"	• Incorrect operation performed. Read the instructions and try again.	**–**
"DVD H□□" □□ stands for a number.	• Trouble may have occurred. The number following "H" depends on the status of the unit. **Reset procedure:** Press [⏻] to switch the unit to standby mode and then back to ON. Alternatively, press [⏻] to switch the unit to standby mode, disconnect the AC mains lead, and then reconnect it. • If the service numbers fail to clear, note the service number and contact a qualified service person.	**–** **–**

Television displays

"Cannot display group xx, content xx."	• You are trying to display incompatible contents.	**–**
"The progressive out is set to "Disable".	• Go to "Video" tab in the SETUP menus, and select "Enable" in "Progressive Out (Component)".	**29**
No on-screen display.	• Go to "Display" tab in the SETUP menus, and select "On" for "On-Screen Messages".	**30**
The disc's menu is displayed in a different language.	• Go to "Disc" tab in the SETUP menus, and select the preferred language for "Menus".	**29**

Listening caution

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion—and, most importantly, without affecting your sensitive hearing.

We recommend that you avoid prolonged exposure to excessive noise.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing.
Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.
To establish a safe level:
- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:
- Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

Maintenance

To clean this unit, wipe with a soft, dry cloth.
- Never use alcohol, paint thinner or benzine to clean this unit.
- Before using chemically treated cloth, read the instructions that came with the cloth carefully.

For a cleaner, crisper sound (cassette deck)

Clean the heads regularly to assure good quality playback and recording. Use a cleaning tape (not included).

When moving the unit

1 **Remove all discs.**

2 **Press [⏻/I POWER] on the main unit to turn it off.**

3 **Disconnect the AC mains lead.**

Glossary

Decoder
A decoder restores the coded au
is called decoding.

Dolby Digital
This is a method of
Laboratories. Apart f
also be multi-chan
be recorded on

DTS (Digit
This su
world
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rec
wh

Specifications

AMPLIFIER SECTION

RMS Output Power Stereo mode (Both channel driven)
10% total harmonic distortion
1 kHz (Low channel) 35 W per channel (6 Ω)
8 kHz (High channel) 35 W per channel (6 Ω)
Total RMS Stereo mode power 140 W
FTC Output Power Stereo mode (Both channel driven)
10% total harmonic distortion
60 Hz – 3 kHz (Low channel) 30 W per channel (6 Ω)
3 kHz – 16 kHz (High channel) 30 W per channel (6 Ω)
Total FTC Stereo mode power 60 W per channel
Phone jack
Terminal Stereo, 3.5 mm (1/8") jack

FM TUNER SECTION

Frequency range 87.9 – 107.9 MHz (200 kHz step)
87.5 – 108.0 MHz (100 kHz step)
Sensitivity 2.5 µV (IHF)
S/N 26 dB 2.2 µV
Antenna terminals 75 Ω (unbalance)
Preset stations 15

AM TUNER SECTION

Frequency range 520 – 1710 kHz (10 kHz steps)
Sensitivity
S/N 20 dB at 1000 kHz 560 µV/m
Preset stations 15

CASSETTE DECK SECTION

Track system 4-track, 2-channel
Heads
Record/playback Solid permalloy head
Erasure Double gap ferrite head
Motor DC servo motor
Recording system AC bias 100 kHz
AC erase 100 kHz
Tape speed 4.8 cm/s (1–7/8 ips)
Overall frequency response (+3, –6 dB) at DECK OUT
Normal (TYPE I) 35 Hz – 14 kHz
S/N ratio 50 dB (A weighted)
Wow and flutter 0.18% (WRMS)
Fast forward and rewind time Approx. 120 seconds with C-60 cassette tape

DISC SECTION

Disc played [8 cm (3") or 12 cm (5")]
(1) DVD-RAM (DVD-VR compatible, JPEG formatted disc)
(2) DVD-Audio
(3) DVD-Video
(4) DVD-R (DVD-Video compatible)
(5) CD-Audio (CD-DA)
(6) Video CD
(7) SVCD (Conforming to IEC62107)
(8) CD-R/CD-RW
(CD-DA, Video-CD, SVCD, MP3, WMA, JPEG formatted disc)
(9) MP3/WMA※
• Compatible compression rate:
MP3: between 32 kbps and 320 kbps
WMA: between 48 kbps and 320 kbps
(10) JPEG※
• Exif Ver 2.1 JPEG Baseline files
• Picture resolution:
between 320x240 and 6144x4096 pixels
(Sub sampling is 4:2:2 or 4:2:0)
(11) HighMAT Level 2 (Audio and Image)

※ The total combined maximum number of recognizable audio and picture contents and groups: 4000 audio and picture contents and 400 groups.

Video system NTSC
Composite video output
Output level 1 Vp-p (75 Ω)
Terminal Pin jack (1 system)
S-VIDEO output
Y output level 1 Vp-p (75 Ω)
C output level 0.286 Vp-p (75 Ω) (NTSC)
Terminal S terminal (1 system)
Component video output (480P/480I)
Y output level 1 Vp-p (75 Ω)
P_B output level 0.7 Vp-p (75 Ω)
P_R output level 0.7 Vp-p (75 Ω)
Terminal Pin jack (Y:green, P_B: blue, P_R:red) (1 system)

Audio output
Number of channels 2
Digital audio output
Optical digital output Optical terminal
Pick up
Wavelength
DVD 662 nm
CD 785 nm
Laser power
For U.S.A. CLASS IIa/CLASS I
For Canada and Latin America CLASS 2/CLASS 3a

SPEAKER SECTION

Type 3 way, 3 speaker system (Bass reflex)
Speaker units
Woofer 10 cm (4") cone type
Tweeter 6 cm (2 3/8") ring shaped dome type
Super tweeter Piezo type
Impedance
High 6 Ω
Low 6 Ω
Input power (IEC) High 35 W (Max)
Low 35 W (Max)
Output sound pressure level 80 dB/W (1.0 m)
Crossover frequency 2.6 kHz, 10 kHz
Frequency range 42 Hz–50 kHz (–16 dB)
52 Hz–45 kHz (–10 dB)
Dimensions (WxHxD) 145 x 250 x 274 mm
(5 23/32" x 9 27/32" x 10 25/32")
Mass 2.6 kg (5.7 lbs)

GENERAL

Power supply AC 120V, 60 Hz
Power consumption 130 W
Dimensions (WxHxD) 174.6 x 251 x 376 mm
(6 7/8" x 9 7/8" x 14 13/16")
Mass 5.7 kg (12.6 lbs)

Operating temperature range + 5°C to + 35°C (+41°F to +95°F)
Operating humidity range 5% to 90% RH (no condensation)

Power consumption in standby mode	0.5 W

Note
1. Specifications are subject to change without notice. Mass and dimensions are approximate.
2. Total harmonic distortion is measured by digital spectrum analyzer.

Panasonic Consumer Electronics Company,
Division of Matsushita Electric Corporation of America
One Panasonic Way Secaucus, New Jersey 07094

Panasonic Sales Company, Division of Matsushita Electric of Puerto Rico, Inc.
Ave. 65 de Infantería, Km. 9.5
San Gabriel Industrial Park, Carolina, Puerto Rico 00985

Panasonic Audio Products Limited Warranty

Limited Warranty Coverage
If your product does not work properly because of a defect in materials or workmanship, Panasonic Consumer Electronics Company or Panasonic Sales Company (collectively referred to as "the warrantor") will, for the length of the period indicated on the chart below, which starts with the date of original purchase ("warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor.

Product or Part Name	Parts	Labor
Audio Products (except items listed below)	One (1) year	One (1) year
All Audio Racks (cabinets)	Thirty (30) days	Not Applicable
Stand Alone Speakers, Subwoofer Speakers	Three (3) years	Three (3) years
USB Reader-Writer, Personal Computer Card Adapters (in exchange for defective item)	One (1) year	Not Applicable
Accessories: Headphones, Cartridges, Microphones, Adapters	Ninety (90) days	Ninety (90) days
Rechargeable Batteries (in exchange for defective item)	Ten (10) days	Not Applicable
SD Memory Cards, Rechargeable Battery Packs (in exchange for defective item)	Ninety (90) days	Not Applicable

During the "Labor" warranty period there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. You must carry-in or mail-in your product during the warranty period. If non-rechargeable batteries are included, they are not warranted. This warranty only applies to products purchased and serviced in the United States or Puerto Rico. This warranty is extended only to the original purchaser of a new product which was not sold "as is". A purchase receipt or other proof of the original purchase date is required for warranty service.

Carry-In or Mail-In Service
For Carry-In or Mail-In Service in the United States call 1-800-211-PANA (1-800-211-7262) or visit Panasonic web site: http://www.panasonic.com
For assistance in Puerto Rico call Panasonic Sales Company (787)-750-4300 or fax (787)-768-2910.

Limited Warranty Limits And Exclusions
This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or commercial use (such as in a hotel, office, restaurant, or other business), rental use of the product, service by anyone other than a Factory Servicenter or other Authorized Servicer, or damage that is attributable to acts of God.

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. (As examples, this excludes damages for lost time, travel to and from the servicer, loss of media or images, data or other memory content. The items listed are not exclusive, but are for illustration only.) **ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.**

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the exclusions may not apply to you.
This warranty gives you specific legal rights and you may also have other rights which vary from state to state. If a problem with this product develops during or after the warranty period, you may contact your dealer or Servicenter. If the problem is not handled to your satisfaction, then write to the warrantor's Consumer Affairs Department at the addresses listed for the warrantor.

PARTS AND SERVICE WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY ARE YOUR RESPONSIBILITY.

Customer Services Directory

Obtain Product Information and Operating Assistance; locate your nearest Dealer or Servicenter; purchase Parts and Accessories; or make Customer Service and Literature requests by visiting our Web Site at:
http://www.panasonic.com/support
or, contact us via the web at:
http://www.panasonic.com/contactinfo
You may also contact us directly at:
1-800-211-PANA (7262),
Monday-Friday 9 am-9 pm; Saturday-Sunday 10 am-7 pm, EST.

For hearing or speech impaired TTY users, TTY: 1-877-833-8855

Accessory Purchases

Purchase Parts, Accessories and Instruction Books online for all Panasonic Products by visiting our Web Site at:
http://www.pasc.panasonic.com
or, send your request by E-mail to:
npcparts@panasonic.com
You may also contact us directly at:
1-800-332-5368 (Phone) 1-800-237-9080 (Fax Only) (Monday – Friday 9 am to 8 pm, EST.)
Panasonic Services Company
20421 84th Avenue South, Kent, WA 98032
(We Accept Visa, MasterCard, Discover Card, American Express, and Personal Checks)

For hearing or speech impaired TTY users, TTY: 1-866-605-1277

Service in Puerto Rico

Matsushita Electric of Puerto Rico, Inc. Panasonic Sales Company
Factory Servicenter:
Ave. 65 de Infantería, Km. 9.5, San Gabriel Industrial Park, Carolina, Puerto Rico 00985
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